

# **Floodplains Technical Report**

**State Highway 82 / Entrance to Aspen  
Environmental Reevaluation**

**February 20, 2007**

**Colorado Department of Transportation, Region 3  
and  
Federal Highway Administration, Colorado Division**

**Prepared by:  
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## **1.0 Affected Environment**

This report provides a reevaluation of floodplains presented in the 1997 State Highway 82 Entrance to Aspen Final Environmental Impact Statement (FEIS, pages IV-59, V-36 and VI-3) for the Preferred Alternative selected in the Record of Decision (ROD) issued in August 1998.

### **1.1 Methodology**

The current FEMA Flood Insurance Rate Maps for the project area were accessed and reviewed using the FEMA website (FEMA, 2006). Pitkin County was also contacted to verify whether any changes in floodplain management or development have occurred since publication of the ROD.

### **1.2 Regulatory Overview**

The Federal Emergency Management Agency (FEMA) floodplain designations for the project area have not changed from what was described in the FEIS (FEMA, 1987). The FEMA floodplain designations for the project and Pitkin County Floodplain Regulations and floodplain management/development have not changed since publication of the 1997 FEIS (Rider 2006). The design of bridges and roadway embankments has sought to minimize impacts to floodplains in compliance with the Federal Highway Administration (FHWA) requirements and Executive Order (EO) 11988 (Federal Register, 1977).

### **1.3 Description of the Existing Condition**

State Highway 82 crosses over Maroon Creek and Castle Creek within the project area. Maroon Creek and Castle Creek are incised channels that are approximately 100 feet below the regular grade of the existing landscape. These formations restrict the associated floodplains to the valleys associated with each creek.

Two components of the Preferred Alternative have been constructed since the publication of the FEIS and ROD: (1) Owl Creek Road and West Buttermilk Road have been relocated to create a new, signalized intersection with State Highway 82 near the Buttermilk Ski Area; and (2) the roundabout at the Maroon Creek Road intersection has been completed.

In addition, the Maroon Creek Bridge Replacement Project is currently under construction, scheduled for completion by spring of 2008. This project is being constructed as a bridge replacement without any increase in roadway capacity. However, it will accommodate the Entrance to Aspen Preferred Alternative in the future by removing the center median and re-striping for two general-purpose lanes and two exclusive bus lanes (see the Introduction to the Technical Report Volume for more detail).

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The intersection of Truscott Drive and State Highway 82 was completed in 2001. While this intersection is not part of the Entrance to Aspen Project, its configuration accommodates the alignment for the east approach to the Maroon Creek Bridge Replacement Project.

A transportation easement across the Marolt-Thomas Open Space was conveyed from the City of Aspen to CDOT in August of 2002, as part of land exchange and mitigation agreements between CDOT and the City of Aspen and Pitkin County. (Refer to Appendix A and B in the 1998 Record of Decision for details of the open space conveyance agreements and mitigation commitments.)

## **2.0 Environmental Consequences**

### **2.1 Methodology**

The floodplain impact assessment prepared for FEIS was reviewed to determine the effects identified from implementation of the Preferred Alternative at the time of the FEIS (CDOT 1997). Based on information obtained from the Colorado Department of Transportation (CDOT) Glenwood Springs Resident Engineer (Mertes, 2006) and from the CDOT project website, potential impacts from construction, operation and maintenance activities were verified and differences, if any, were noted.

### **2.2 Preferred Alternative**

The Maroon Creek Bridge Replacement, as described in the 1997 FEIS on page V-36, is currently under construction. The bridge will be approximately 620 feet long and is scheduled for completion in the fall of 2007 (Mertes, 2006). Its abutments will be located outside the 100-year floodplain area and consequently will have no impact on the existing floodplains (Mertes, 2006). Two supporting pier columns are located within the Maroon Creek floodplain. No additional impacts to those reported in the FEIS were identified during this reevaluation.

The proposed Castle Creek Bridge will not have any structures located within the floodplain of Castle Creek; therefore no floodplain impacts are anticipated.

Based on existing floodplain conditions in the study area, there is no evidence of any substantive, long-term adverse effect on floodplains from the intersection or roundabout construction. The current construction of the Maroon Creek Bridge is being done using Best Management Practices (BMPs).

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### 3.0 Mitigation Measures

Mitigation measures described in the 1997 FEIS (page VI-3) have been implemented for components for the Preferred Alternative already constructed. These measures also will be implemented during construction of future components of the Preferred Alternative. The measures are considered adequate to minimize impacts to floodplains in the project area. Impacts and mitigation measures are summarized in the following section.

### 4.0 Summary of Impacts and Mitigation

Impacts are summarized below in Table 4-1 as identified in both the FEIS and this reevaluation. Mitigation measures listed in the table are those from the 1998 ROD, unless additional measures are noted as being required due to findings of the reevaluation.

**Table 4-1  
Summary of Impacts and Mitigation Measures**

<b>Topic</b>	<b>FEIS Impact</b>	<b>Reevaluation Impact</b>	<b>Mitigation Measures</b>
Floodplains			
Maroon Creek	Piers located within floodplain are expected to have only a minor impact on the 100-year water surface.  Minor impacts due to placement of piers directly adjacent to stream crossing  Temporary impacts during construction, of buried riprap	No change.	Avoid extensive longitudinal encroachments to stream channels  Provide buried riprap to minimize erosion

### 5.0 Agency Consultation

Pitkin County Environmental Health and Natural Resources Department and CDOT, Region 3 were contacted for information relevant to the floodplains reevaluation.

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## 6.0 References

CDOT (Colorado Department of Transportation) website for the Maroon Creek bridge replacement project. <http://www.dot.state.co.us/MaroonCreek>. Site accessed July 31, 2006.

Federal Register. May 24, 1977. Executive Order No. 11988. Floodplain Management. 42 F.R. 26951. Accessed from the National Archives website <http://www.archives.gov/federal-register/codification/executive-order/11988.html> Site accessed August 10, 2006.

FEMA [Federal Emergency Management Agency]. June 4, 1987. Pitkin County, Colorado and Incorporated Areas Flood Insurance Rate Map. Panel 203 of 325. 08097C0203 C. Accessed from the FEMA Map Service Center. <http://www.fema.gov/business/nfip/mscjumpmpage.shtm> Site accessed July 30, 2006.

Mertes, Pete, July 31, 2006. Glenwood Springs Resident Engineer. Colorado Department of Transportation. Personal Communication. Specifications and impacts of the Maroon Creek bridge replacement.

Rider 2006. Personal communication between Warren Rider (Pitkin County, Environmental Health and Natural Resources Department) and Dan Miller on October 2, 2006 to verify current status of floodplain designations, regulations, and management within the project area.

## 7.0 List of Preparers

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## **Appendix A – Flood Insurance Rate Maps**



